

COMMON ELEMENTS		COMMON VARIABLES	
<p>117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000</p>		<p>117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000</p>	

Equilibrium in the system urea-KCl-water. I. M. Bokhorst and Yu. I. Bokhorst. *J. Gen. Chem.* (U.S.S.R.) 17, 681-4(1947)(in Russian).—The system was studied by the "polythermal" method. Binary mixts. are made up, the third component is added in varying amounts, and the f.p. is detd. The ternary eutectic melts at -18.0° and contains 68.0% water, 15.9% KCl, and 16.1% urea. Urea has three cryst. modifications, the α - β transition occurring at 0° , and the β - γ transition at 25° . These transition temps. are lowered by the addn. of KCl. KCl has two modifications, the transition occurring at 27° . Arvid J. Miller

2

COMMON ELEMENTS

COMMON VARIABLES

ASTM-51A METALLURGICAL LITERATURE CLASSIFICATION

FROM SYMBOLS

COLLECTIONS

STATIST ONE ONE 151

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSING AND PROPERTY INDEX																			
CA										18									
<p>Chemical composition and efficiency of the Nemskaa brines. I. M. Bekhovskii (Arkhangel'sk Forestry Inst.). <i>J. Applied Chem. (U.S.S.R.)</i> 20, 293-4(1947)(in Russian).—The brines, situated on the White Sea 70 km. southeast of Arkhangel'sk, are mostly of the NaCl type, some of the NaCl-CaCl₂ type; NaCl up to 9%, total salts up to 10.8%; freezing temp. -4.7° to -5.2°.</p> <p>N. Tchen</p>																			
A.S.H.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION																			
FROM SYMBOLS										FROM SYMBOLS									
SYMBOLS										SYMBOLS									
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z										A B C D E F G H I J K L M N O P Q R S T U V W X Y Z									

C A

Equilibrium in the system urea-potassium bromide.
 water. I. M. Kuznetsov and Yu. I. Kuznetsov. *Zhur.*
(Zhurnal Khim. Fiz.) 19, 1002-6 (1940); *J. Gen. Chem. U.S.S.R.*
 19, 993-6 (1940) (English translation); *cf. C.A.* 42, 3062.
 —The solubilities in the ternary system were studied by
 the "polythermal" method. A ternary eutectic point was
 found at -20.5° containing 81.1 (wt. %) water, 24.6% urea,
 and 24.3% KBr. No new compounds were observed.
 There are 8 different regions where the solid phases are:
 ice, α - and β -KBr, and α -, β -, and γ -urea. The transi-
 tion temp. from α - to β -KBr occurs at 10° in the absence of
 urea, and is lowered to about -18° by 30% urea. Simi-
 larly, the transition temp. from α - to β -urea is lowered
 from 0° (no KBr) to about -10° by 20% KBr, and that
 from β - to γ -urea is lowered from 22° (no KBr) to about
 -20° by 30% KBr.
 Arild J. Miller

*Chair Gen. & Anal. Chem, Arkhangelsk
 Tech. Forestry Inst. im V. Kuybyshev.*

Bokhovkin, I. M.

USSR/Corrosion. Protection from Corrosion.

J

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10555

Author : Bokhovkin, I. M.

Inst : Arkhangelsk Forestry Institute

Title : The Effect of Chromium and of Antimony on the Corrosion of Wrought Iron

Orig Pub: Tr. Arkhang. lesotekhn. in-ta, 1955, Vol 16, 56-62

Abstract: Investigation of the corrosion (C) of graphitized and nongraphitized wrought iron alloyed with Cr and Sb in 1 N H₂SO₄ at 50° has shown that the graphitized specimens are subjected to greater C than the nongraphitized specimens. Maximum corrosive attack has been observed in iron-containing 0.42% Sb; the author explains this result by the chemical reaction between Cr and Sb. The opinion is expressed that in the absence of passivation the rate of C is determined by the inter-atomic bonds in alloys.

Card 1/1

BOKHOVKIN, I. M.

USSR/Corrosion - Protection from Corrosion, J

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63826

Author: Bokhovkin, I. M.

Institution: None

Title: Effect of Cobalt on Corrosion of White Cast Iron

Original

Periodical: Tr. Arkhang. lesotekhn. in-ta, 1955, 16, 79-84

Abstract: Considered is the effect of Co on corrosion of white cast iron in H_2SO_4 . Noted is the difference in effect of Co on the rate of corrosion of cast iron depending on the presence therein of Si.

Card 1/1

BOKHOVKIN, I. M.

✓ Physicochemical analysis of the ternary system urea-acetic acid-phenylacetic acid. I. M. Bokhovkin and V. P. Chesnokov (Forest. Inst., Archangel'sk). *Zh. Obshchei Khim.* 25, 609-14 (1955). No interaction was found in the binary system of $\text{CO}(\text{NH}_2)_2$ and $\text{PhCH}_2\text{CO}_2\text{H}$ by thermal analysis methods. The latter applied to the ternary system showed that the largest area of crystallization is that of $\text{CO}(\text{NH}_2)_2$, followed by that of $\text{PhCH}_2\text{CO}_2\text{H}$, and finally of the compound $\text{CO}(\text{NH}_2)_2 \cdot 2\text{AcOH}$, m. 30° ; AcOH occupies the smallest of crystallization areas on the diagram. The results are shown graphically. The system has 2 ternary eutectics: one 12° with 35 mole % AcOH, 35 mole % $\text{PhCH}_2\text{CO}_2\text{H}$, and 30 mole % $\text{CO}(\text{NH}_2)_2$, and the other at -3° with 8 mole % $\text{CO}(\text{NH}_2)_2$, 74 mole % AcOH, and 18 mole % $\text{PhCH}_2\text{CO}_2\text{H}$. Curves of compn. vs. cond., viscosity, and d. in the binary systems $\text{CO}(\text{NH}_2)_2$ - $\text{PhCH}_2\text{CO}_2\text{H}$ and AcOH- $\text{PhCH}_2\text{CO}_2\text{H}$ were almost rectilinear and indicated the lack of chem. interaction. G. M. Kosolapoff

Бокховкин И. М.

B-8

USSR/Thermodynamics - Thermochemistry. Equilibria.
Physical-Chemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18536

Author : Yu.I. Bokhovkina, I.M. Bokhovkin.

Title : Surface Tension in Binary Systems of Urea with Acetic
Acid and Its Chlor- Derivatives.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 4, 1062-1065

Abstract : The measurement of the surface tension in binary systems of urea with acetic acid and its chlor derivatives mono-chloroacetic, dichloroacetic and trichloroacetic acids was carried out by the method of greatest pressure in gas bubble in the temperature range of 45 to 90°. It was shown that the isotherms σ for the system urea - acetic acid were convex towards the composition axis in consequence of the dissociation of the molecular compound $\text{CO}(\text{NH}_2)_2 \cdot 2\text{CH}_3\text{COOH}$. A smooth rise of σ without characteristic breaks together with

Card 1/2

- 214 -

Bozhovkin I.M.

BOZHOVKIN, I.M.

Corrosion of alloys of the system zinc-antimony. Zhur.prikl.khim.
29 no.8:1298-1299 Ag '56. (MIRA 10:10)

1.Arkhangel'skiy lesotekhnicheskiy institut im. V.V. Kuybysheva.
(Corrosion and anticorrosives)
(Antimony--Zinc alloys)

BOKHOVKIN, I. M.
USSR/Physical Chemistry. Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14710.

Author : I. M. Bokhovkin, Yu. I. Bokhovkina
Inst : -
Title : Physical-Chemical Analysis of Binary Systems Produced
by Acetamide with Organic Acids. I. Density, Viscosity
and Electrical Conductivity of System Acetamide-Acetic
Acid.

Orig Pub: Zh. obshch. khimii, 1956, 26, No 5, 1315-1318

Abstract: The density, viscosity and electrical conductivity of
the system acetamide (I) - acetic acid (II) were measured
at 20, 60 and 80°. The density isotherms are represented
by curves with a slight convexity towards the composition
axis. The viscosity isotherms, convex towards the com-
position axis, indicate the dissociation of the associated
compound in the system. The isotherms of the electrical
conductivity are characterized by a maximum, which some-

Card 1/2

BOKHOROV KIN, I. M.

7
Physicochemical analysis of binary systems formed by
acetals with organic acids. I. Density, viscosity, and
conductivity of the system acetamide-acetic acid. I. M.
Bokhorovkin and Yu. I. Bokhorovkina. *J. Gen. Chem. U.S.S.R.*
3, 26, 1485-8 (1968) (English translation). II. Density,
viscosity, and conductivity of the system acetamide-mono-
chloroacetic acid. Yu. I. Bokhorovkina and I. M. Bokhorovkin.
Ibid. 1489-92. See C.A. 59, 14336h. B. M. R. *Chem*

RM
MT

Physicochemical analysis of binary systems formed by acetamide with organic acids. III. Density, viscosity, and conductivity of system acetamide-trichloroacetic acid. Yu. I. Bokhovkina and I. M. Bokhovkin (Wood Technol. Inst., Archangel). *Zhur. Obshch. Khim.* 26, 1872-8 (1950); cf. C.A. 50, 14538h. The curves of d , viscosity, and specific cond. in the system $\text{AcNH}_2\text{-CCl}_3\text{CO}_2\text{H}$ are presented for 50°, 60°, and 70°. The d curves are slightly convex toward the compn. axis; viscosity curves show a max. corresponding to a compd. $\text{AcNH}_2\cdot 2\text{CCl}_3\text{COOH}$ (I), the max. being displaced toward the acid and becoming weaker at higher temp. Cond. curves show breaks that indicate formation of $\text{AcNH}_2\cdot \text{CCl}_3\text{COOH}$ and I, but the temp. coeff. of cond. fails to show any definite compds. in the homogeneous melt. G. M. Kosolapoff

BOOK 401KIN, F.M.

Surface tension of binary systems composed of acetic acid and its chloro derivatives. I. A. S. G. Kozlov (Petersburg, U.S.S.R.), *Zhur. Obshch. Khim.*, 40, 2705-2708 (1964), English translation at 40°, 60° and 80° are listed in the binary systems of $\text{AcOH}-\text{CCl}_3\text{CO}_2\text{H}$, $\text{AcOH}-\text{CHCl}_2\text{CO}_2\text{H}$, and $\text{AcOH}-\text{CCl}_2\text{CO}_2\text{H}$. The results indicate no chemical interaction of the components, the isotherms of surface tensions being smooth curves. G. M. Koslov

REMA 10-1

BOKHOVKIN, I. M.

2

Physical-chemical analysis of the ternary system (acetic acid-chloroacetic acid). I. M. Bokhovkin and Yu. I. Bokhovkina (Wood Tech. Inst., Archangel). *Zhur. Obshch. Khim.* 26, 2235-2 (1950); cf. *C.A.* 51, 4114/- The m.p. diagram of $\text{CO}(\text{NH}_2)_2\text{-AcOH-ClCH}_2\text{CO}_2\text{H}$ was studied, and the results are shown graphically. There are 6 areas of crystals: the 3 pure components and 3 binary compounds: $\text{CO}(\text{NH}_2)_2\text{-2AcOH}$, $\text{CO}(\text{NH}_2)_2\text{-2ClCH}_2\text{CO}_2\text{H}$, and $\text{CO}(\text{NH}_2)_2\text{-ClCH}_2\text{CO}_2\text{H}$. No ternary compounds were detected. Four ternary eutectics were located: 40 mole % $\text{CO}(\text{NH}_2)_2$, 35 mole % AcOH, and 25 mole % $\text{ClCH}_2\text{CO}_2\text{H}$; 32, 25, and 33; 14, 52, and 34; and 7, 63, and 30 mole %, resp.

G. M. Kosolapov

✓ Surface tension in the system aniline-acetic acid. I. M. Bokhovkin (Forest. Inst., Archangel). *Zashch. Oshch. Khim.* 27, 838-7(1957).—The m.p. diagram and isotherms of surface tension are shown for the system $\text{PhNH}_2\text{-AcOH}$, the isotherms being taken at 10°, 20°, 30°, and 40°. The isotherms are convex toward the property axis and show the existence of a complex $3\text{AcOH}\cdot\text{PhNH}_2$ that dissociates with elevation of temp.

G. M. Kosolapov

3
2 { 1-4E3d
1-4E4x

11

18

AUTHORS: Bokhovkin, I. M., Veselkova, Ye. G. 79-28 3-55/61

TITLE: Physical and Chemical Analysis of Binary Systems Formed of Phenol With Acetic Acid and Its Derivatives (Fiziko-khimicheskiy analiz dvoynykh sistem, obrazovannykh fenolom s uksusnoy kislotoy i yeye khloroproizvodnymi)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 3, pp. 819-823 (USSR)

ABSTRACT: As is known the entrance of chlorine into the radical of acetic acid leads to the increase of acidity and consequently to an intensification of the chemical reaction with other components (references). The problem of the present work is the reaction of phenol with acetic acid and its chlorine derivatives in liquid phase. The corresponding method was described earlier (references 2-5). The initial products were purified: acetic acid by freezing, phenol, monochloro- and trichloro acetic acid by distillation. The concentrations were expressed in molar percents, the surface tension in dyn/cm, the viscosity in centi-Poise. The surface tension, viscosity and density were investigated for all systems at 50, 70 and 90° C. The physical and chemical investigation of the binary

Card 1/2

Physical and Chemical Analysis of Binary Systems Formed of
Phenol With Acetic Acid and Its Derivatives

79-28 3-55/61

systems consisting of phenol with acetic acid and its chlorine derivatives was carried out according to the methods of density, viscosity and of surface tension. The isothermal lines of density, viscosity and surface tension in systems consisting of acetic acid and monochloroacetic acid with phenol do not give any hints as to the presence of compounds in molten medium. The isothermal lines of viscosity and surface tension in the system trichloroacetic acid-phenol as fusion diagram indicate the presence of the compound $C_6H_5OH \cdot CCl_3COOH$. From the comparison of the isothermal lines of surface tension, density and viscosity of all three investigated systems can be seen that the introduction of chlorine into the radical of acetic acid leads to an increase of the chemical reaction of phenol with acetic acid derivatives. There are 6 figures, 9 tables, and 10 references all of which are Soviet.

ASSOCIATION:

Arkhangel'skiy lesotekhnicheskii institut
(Arkhangel'sk Institute for Forestry Engineering)

SUBMITTED:

February 2, 1957

Card 2/2

AUTHOR: Bokhovkin, I. M.

79-28-4-3/60

TITLE: Physical Chemical Investigation of the Interaction of Acetone With Acetic Acid and Its Chlorine Derivatives (Fiziko-khimicheskoye issledovaniye vzaimodeystviya atsetona s uksusnoy kislotoy i yeye khlorproizvodnymi)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 4, pp. 862-867 (USSR)

ABSTRACT: The author observed the interaction of acetone with acetic acid and its chlorine derivatives in order to check the correctness of the assumptions made earlier (Ref. 6). In the present paper the author described the investigations of three binary systems: acetone - acetic acid, acetone - monochloroacetic acid and acetone - trichloroacetic acid. (Ye. G. Veselkova participated in the experimental work). Density, viscosity and surface tension were studied. The method of the experiments of these systems was described earlier (Refs. 2,5,9). A compound $2\text{CH}_3\text{COOH} \cdot$

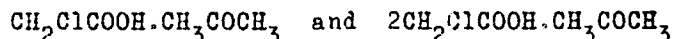
Card 1/3

CH_3COCH_3 exists in the homogeneous melted medium in the

Physical Chemical Investigation of the Interaction
of Acetone With Acetic Acid and Its Chlorine Derivatives

79-28-4-3/60

system acetone - acetic, and in the system acetone - tri-
chloroacetic acid a compound of $\text{CCl}_3\text{COOH} \cdot \text{CH}_3\text{COCH}_3$ exists.
It may be assumed that two compounds are formed



in the system acetone - monochloro-
acetic acid. Interaction of the components in the system
acetone - acetic acid and their chlorine derivatives in-
tensifies according to the substitution of hydrogen in the
acetic acid radical by chlorine. From the comparison of the
isothermal lines of density, viscosity and surface tension
in the systems consisting of carbamide, acetamide and ace-
tone with acetic acid and their chlorine derivatives con-
clusions were drawn on a certain similarity of chemical
phenomena which take place within them in the presence of
the hydrogen binding). The author gave a comparison of the
stable compounds which form in the systems of carbamide-,
acetamide-, and acetone - acetic acid and their chlorine
derivatives. The most stable compounds in the homogeneous
medium are the compounds of acetamide and acetic acid and
their chlorine derivatives since acetamide has the highest
dielectric constant.

Card 2/3

Physical Chemical Investigation of the Interaction of Acetone With Acetic Acid and Its Chlorine Derivatives 79-28-4-3/60

There are 9 figures, 4 tables and 10 references, all of which are Soviet.

ASSOCIATION: Arkhangel'skiy lesotekhnicheskii institut (Arkhangel'sk Institute for Forestry)

SUBMITTED: March 26, 1957

Card 3/3

AUTHOR: Bokhovkin, I. M. SOV/79-29-6-5/72

TITLE: Physico-chemical Investigation of the Double System
Hydrazine-Acetic Acid (Fiziko-khimicheskoye issledovaniye
dvoynoy sistemy gidrazin-ukusnaya kislota)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 1793-1797
(USSR)

ABSTRACT: Comparatively few data are available in publications on the
physico-chemical analysis of the double salts which are
formed from hydrazine and organic acids(Ref 1), although
these investigations are of practical and theoretical inter-
est. The hydrazine is characterized by the internuclear
distance $d(NN) = 1.47 \text{ \AA}$ and by the considerable polarity
with the dipole length 0.38 \AA . It is readily soluble in
water and has a high dielectric constant (53 at 23°). It
can therefore be used as well-ionizing solvent for many
inorganic and organic compounds. On solution of organic
compounds in hydrazine their electrolytic dissociation must
increase. The hydrogen ion, being a good agent for the
complex formation, causes the formation of compounds from
hydrazine and acids as is the case with the solution of

Card 1/3

Physico-chemical Investigation of the Double System
Hydrazine-Acetic Acid

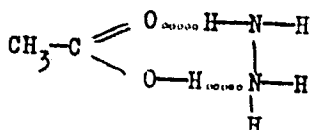
SOV/79-29-6-5/72

organic acids in acetamide (Refs 2,3), the dielectric constant of which is 59.1. In the present paper density, viscosity, surface tension, and specific electric conductivity in the above-mentioned system were investigated at 70, 75, and 80°. The isotherms of all these properties indicate the presence of the compound $N_2H_4 \cdot CH_3COOH$ in the molten homogeneous medium. The figures give the maxima of the isotherms of density and viscosity. The isothermal lines of the surface tension are S-like. In the isotherms of the electric conductivity a sharp break can be seen which corresponds with the compound mentioned. The curves of the temperature coefficients of the electric conductivity and viscosity also confirm the presence of the compound mentioned in a component ratio of 1 : 1 (maximum conductivity and minimum viscosity). A formation scheme of the compounds of hydrazine with acetic acid is suggested on the basis of the hydrogen bond so that the structure of the above compound had to correspond with the formula

Card 2/3

Physico-chemical Investigation of the Double System
Hydrazine-Acetic Acid

SOV/79-29-6-5/72



There are 3 figures, 2 tables, and 10 Soviet references.

ASSOCIATION: Arkhangel'skiy lesotekhnicheskii institut (Arkhangel'sk
Institute of Forestry)

SUBMITTED: May 29, 1958

Card 3/3

5 (4)

AUTHOR:

~~Bokhovkin, I. M.~~

SOV/79-29-8-6/81

TITLE:

Physico-chemical Analysis of the Binary Systems Formed by Phenol With Carbamide, Acetamide, and Acetone

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2485 - 2489 (USSR)

ABSTRACT:

It was of interest to the author to investigate the chemical nature of the above reactions. Acetamide and acetone may be considered to be a carbamide in which the amino groups are replaced successively by one and two methyl radicals. As is known, phenols and amides are characteristic of hydrogen bonds. It was therefore of interest to investigate in what degree the hydrogen bond appears between dissimilar molecules, especially between phenol and carbamide, acetamide, and acetone in melted state as illustrated by the diagrams "composition - property". This investigation is of practical importance since phenol and carbamide are used together in the industrial production of carbamide resins. Viscosity, density, and surface tension of the binary systems mentioned in the title were investigated. The presence of a compound in a melted, homogeneous medium in the phenol - acetamide and phenol - acetone systems was de-

Card 1/2

Physico-chemical Analysis of the Binary Systems Formed SOV/79-29-8-6/81
by Phenol With Carbamide, Acetamide, and Acetone

terminated from the isothermal lines of viscosity and density, yet not the presence of a compound in the phenol - carbamide system. The isothermal lines of surface tension did not indicate the presence of a compound in any of the three systems. It was ascertained that the stability of the three systems depends on the dielectric constant of the component which enters into reaction with phenol. The degree of stability of the compounds in solid phase as well as in a melted, homogeneous medium may be shown in the following order: acetamide-phenol > acetone-phenol > phenol-carbamide. The compounds ascertained at the interface of two phases and in a homogeneous medium are in all probability of the hydrogen-bond type. There are 3 figures, 3 tables, and 11 references, 8 of which are Soviet.

ASSOCIATION: Arkhangel'skiy lesotekhnicheskii institut (Arkhangel'sk Institute of Forestry Engineering)

SUBMITTED: June 20, 1958

Card 2/2

CHESNOKOV, V.F.; BOKHOVKIN, I.M.

Thermal analysis of the ternary system acetamide - acetic
acid - phenylacetic acid. Zhur.ob.khim. 3) no.7:2124-2127
J1 '60. (MIRA 13:7)

1. Arkhangel'skiy lesotekhnicheskiy institut.
(Acetamide) (Acetic acid)

BOKHOVKIN, I.M.

Corrosion of cadmium-antimony alloys in hydrochloric and nitric
acid. Zhur. prikl. khim. 33 no.6:1418-1421 Je '60. (MIRA 13:8)
(Cadmium-antimony alloys)

24.7000 1043, 1160, 1147
18 8300 1138

22000
S/076/61/035/004/006/018
B106/B201

AUTHOR: Bokhovkin, I.M.

TITLE: Corrosion of alloys of cadmium with antimony in sulfuric acid

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 4, 1961, 789 - 792

TEXT: A study has been made of the corrosion rate of cadmium-antimony alloys in sulfuric acid as a function of the acid concentration. Great importance is attached to this problem in the practice in connection with the use of these alloys as semiconductor materials. The alloys were prepared by a method described by the author earlier (Ref. 4: Zh. prikl. khimii, 29, 1298, 1956). The specimens had a cylindrical shape (15-20 mm high, 8-10 mm in diameter). The metallographic analysis showed a good homogeneity of the alloys and the absence of segregation. The specimens were treated with sulfuric acid for 1-6 hours at 40°C. The temperature constancy was attained by a thermostat. The corrosion rate was determined from the weight decrease of the specimens and indicated as g/m² hour. The sulfuric acid concentrations ranged between 1 and 24 N. Table 1 presents the results obtained. With rising concentration of the sulfuric acid (up to 11-13 N) the corrosion rate of alloys with < 50% antimony also rises, Card 1/6

22000

S/076/61/035/004/006/018
B106/B201

Corrosion of alloys of ...

passes through a maximum, and again decreases with a further rise of the sulfuric acid concentration (18-24 N). The corrosion rate of the specimen with 52% antimony dropped little, but steadily, with a rise of acid concentration. The rate at which specimens with higher antimony contents were attacked was considerably slower, the corrosion rate slowly decreasing with a rise of sulfuric acid concentration. The author also studied the effect of two inhibitors (furfurole, dioxan) upon the corrosion of cadmium-antimony alloys. These inhibitors were added to the sulfuric acid in an amount of 1%. In alloys with high corrosion rate (0-50% Sb), the inhibitors reduced the corrosion rate considerably. While dioxan reduced the corrosion rate to about half, it was possible to suppress the corrosion process almost completely by the addition of furfurole. The inhibitors had practically no effect upon the low corrosion rate of specimens with higher antimony contents. The third chapter of the present paper deals with alloy corrosion as a function of composition, and with the chemical reaction between the alloy components. The results obtained are shown in the figures. With increasing antimony content in the alloy (up to 30%) the corrosion rate rises, and drops very abruptly with a further increase of the antimony content to 52%. Specimens with higher

Card 2/6

22000

S/076/61/035/004/006/018
B106/B201

Corrosion of alloys of ...

antimony contents exhibit a low, almost constant corrosion rate. The reason for this shape of the curves is the formation of the CdSb compound (52% Sb), and the more positive electrode potential of antimony (normal potential $\text{Cd/Cd}^{2+} = -0.40$ v, normal potential $\text{Sb/Sb}^{3+} = 0.2$ v). The abrupt drop of the curves at 50% Sb may be regarded as the limit of corrosion stability of the alloys. In this composition, a multilayered protective coating of compound CdSb is formed on the alloy surface, so that the corrosive medium cannot penetrate into the alloy interior. The increase of corrosion rate in the range of 0-30% Sb is manifestly due to the cathode process being rendered easier by the presence of the more electropositive antimony. There are 1 figure, 3 tables, and 4 Soviet-bloc references.

ASSOCIATION: Arkhangel'skiy lesotekhnicheskiy institut
(Arkhangel'sk Institute of Wood Technology)

SUBMITTED: July 13, 1960

Card 3/6

22000

S/076/61/035/004/006/018
B106/B201

Corrosion of alloys of ...

Table 1

① № сплавов	② Состав сплава, %		③ Концентрация серной кислоты, N							
	Cd	Sb	1	2	4	8	11	13	18	24
1	100	—	2,8	16,4	16,4	33,9	40,3	40,3	17,1	13,9
2	95	5	2,9	6,5	17,0	34,7	40,3	40,4	18,9	17,1
3	92,5	7,5	3,0	6,8	17,7	34,9	40,4	40,8	23,9	20,0
4	90	10	3,6	7,8	18,0	35,9	40,7	41,8	28,9	23,1
5	70	30	5,4	9,9	30,9	51,9	58,0	58,0	30,1	25,9
6	55	45	3,9	4,8	12,1	22,9	27,1	28,0	14,1	12,4
7	52	48	3,8	4,4	6,2	9,8	10,4	6,2	2,1	1,8
8	50	50	3,2	4,2	5,0	9,7	9,6	5,2	1,1	0,8
9	48	52	1,4	1,4	1,3	1,1	0,8	0,7	0,4	0,4
10	45	55	0,6	0,6	0,6	0,4	0,3	0,3	0,3	0,3
11	42	58	0,6	0,5	0,5	0,4	0,3	0,3	0,3	0,3
12	35	65	0,5	0,5	0,4	0,4	0,3	0,3	0,3	0,3
13	20	80	0,4	0,4	0,4	0,3	0,3	0,3	0,3	0,3
14	—	100	0,4	0,4	0,4	0,4	0,3	0,3	0,2	0,2

Legend to Table 1: Corrosion rate of cadmium-antimony alloys in sulfuric acid, g/m² hour; (1) no. of alloys; (2) composition of alloy, %; (3) sulfuric acid concentration, N.

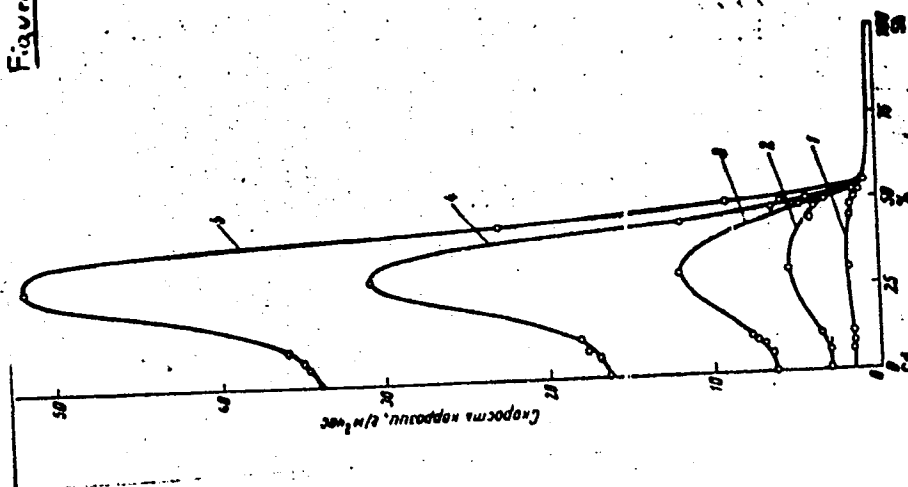
Card 4/6

22000

8/076/61/035/004/006/018
B106/B201

Corrosion of alloys of ...

Figure



Card 5/6

Corrosion of alloys of ...

22000

S/076/61/035/004/006/018
B106/B201

Legend to the figure: Curves of corrosion rate of cadmium-antimony alloys in sulfuric acid as a function of the composition; ordinate - corrosion rate, g/m²hour; 1 - H₂SO₄+1% furfurole; 2 - 1 N H₂SO₄; 3 - 2 N H₂SO₄; 4 - 4 N H₂SO₄; 5 - 8 N H₂SO₄.

Card 6/6

/ LUK'YANOV, Yu.I. (Vladimir); MAKSIMETS, I.I. (Ternopol'); BOKHOVKIN,
V.M. (Ryazan')

Suggestions and advice. Fiz.v shkole 23 no.1:60 Ja-F '63.
(MIRA 16:4)
(Physics--Experiments)

1ST AND 2ND COLUMNS		PROCESS AND PROPERTIES INDEX		3RD AND 4TH COLUMNS	
<p><i>Handwritten:</i> <i>Chair</i></p>		<p><i>Handwritten:</i> <i>2</i></p> <p>Equilibrium in the system urea-KCl-water. I. M. Bokhovich and Yu. I. Bokhovich. <i>J. Gen. Chem. (U.S.S.R.)</i> 19, 621-6 (1947) (in Russian).--The system was studied by the "polythermal" method. Binary mixts. are made up, the third component is added in varying amounts, and the f.p. is detd. The ternary eutectic in its at -18.9° and contains 86.0% water, 16.0% KCl, and 20.1% urea. Urea has three cryst. modifications, the α-β transition occurring at 0°, and the β-γ transition at 35°. These transition temps. are lowered by the adm. of KCl. KCl has two modifications, the transition occurring at 27°.</p> <p style="text-align: right;">Arld J. Mink</p>			
<p>ASM-31A METALLURGICAL LITERATURE CLASSIFICATION</p>					
<p>1900 11000000</p>		<p>11000 110000</p>		<p>11000 110000</p>	
<p>11000 110000</p>		<p>11000 110000</p>		<p>11000 110000</p>	

Bozhovkin A. Yu. I.
CA

Equilibrium in the system urea-potassium bromide-water. I. M. Bozhovkin and Yu. I. Bozhovkina. *Dokl. Akad. Nauk SSSR*, 19, 1002-6 (1949); *J. Gen. Chem. U.S.S.R.* 19, 993-6 (1949) (English translation); cf. *C.A.* 42, 3652. —The solubilities in the ternary system were studied by the "polythermal" method. A ternary eutectic point was found at -20.8° containing 51.1 (wt. %) water, 24.6% urea, and 24.3% KBr. No new compounds were observed. There are 6 different regions where the solid phases are: ice, α - and β -KBr, and α -, β -, and γ -urea. The transition temp. from α - to β -KBr occurs at 10° in the absence of urea, and is lowered to about -18° by 30% urea. Similarly, the transition temp. from α - to β -urea is lowered from 0° (no KBr) to about -19° by 20% KBr, and that from β - to γ -urea is lowered from 22° (no KBr) to about -20° by 25% KBr. Arild J. Müller

Chair Gen. & Anal. Chem. Arkhangel'sk Inst. Forestry Inst. in V.V. Kuznetsov

USSR/Thermodynamics - Thermochemistry. Equilibria.
Physical-Chemical Analysis. Phase Transitions.

B-8

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18536

the rise of urea content in binary systems with
chloroderivatives points to the absence of any
chemical interaction between the components of the
system in the liquid phase.

Card 2/2

- 215 -

BOKHOVKINA, Yu. I.

USSR/Physical Chemistry, Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14710.

Author : I. M. Bokhovkin, Yu. I. Bokhovkina

Inst : -

Title : Physical-Chemical Analysis of Binary Systems Produced
by Acetamide with Organic Acids. I. Density, Viscosity
and Electrical Conductivity of System Acetamide-Acetic
Acid.

Orig Pub: Zh. obshch. khimii, 1956, 26, No 5, 1315-1318

Abstract: The density, viscosity and electrical conductivity of
the system acetamide (I) - acetic acid (II) were measured
at 20, 60 and 80°. The density isotherms are represented
by curves with a slight convexity towards the composition
axis. The viscosity isotherms, convex towards the com-
position axis, indicate the dissociation of the associated
compound in the system. The isotherms of the electrical
conductivity are characterized by a maximum, which some-

Card 1/2

USSR/Physical Chemistry. Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14710

Abstract: what shifts towards I with the temperature rise; a small
breaking point is observed on the electrical conductivity
isotherm of 20°, it corresponds to the compound 1 : 1.
The chemical interaction is very weakly expressed in the
system I - II.

Card 2/2

BOKHOVKINA, YU I

7
Physicochemical studies of binary systems formed by
acetamide with organic acids. I. Density, viscosity, and
conductivity of the system acetamide-acetic acid. Yu. I.
Bokhovkin and Yu. I. Bokhovkina. J. Gen. Chem. U.S.S.R. 28, 1480-82 (1958) (English translation). II. Density,
viscosity, and conductivity of the system acetamide-monochloroacetic acid. Yu. I. Bokhovkina and I. M. Bokhovkin.
Ibid. 1480-82. -- Sov. Chem. 39, 1425-26 (1961). B. M. R.

2

RM
MT

Physicochemical analysis of binary systems formed by acetamide with organic acids. III. Density, viscosity, and conductivity of system acetamide-trichloroacetic acid. Yu. I. Bokhovkina and I. M. Bokhovkin (Wood Technol. Inst., Archangel). *Zhur. Obshchei Khim.* 26, 1872-8 (1956); cf. *C.A.* 50, 14338h. The curves of d., viscosity, and specific cond. in the system $\text{AcNH}_2\text{-CCl}_3\text{CO}_2\text{H}$ are presented for 50°, 60°, and 70°. The d. curves are slightly convex toward the compn. axis; viscosity curves show a max. corresponding to a compd. $\text{AcNH}_2\cdot 2\text{CCl}_3\text{CCOOH}$ (I), the max. being displaced toward the acid and becoming weaker at higher temp. Cond. curves show breaks that indicate formation of $\text{AcNH}_2\cdot \text{CCl}_3\text{CCOOH}$ and I, but the temp. coeff. of cond. fails to show any definite compds. in the homogeneous melt. G. M. Kosolapoff

Density and viscosity of binary systems formed by urea with acetic acid and its chloro derivatives. Yu. I. Rokhova, *Zhur. Obshch. Khim.* (Prestary list, Archangel), *Zhur. Obshch. Khim.* 26, 2390-494 (1960); cf. *C.A.* 50, 13195z; Rudenko, *et al.*, *C.A.* 47, 8494d. — Density and viscosity of the system $\text{CO}(\text{NH}_2)_2$ -AcOH were detd. at 45°, 60°, and 70°; the graphically presented results show additive variation of the properties with compn. of the system; the viscosity-compn. curves are slightly convex toward the compn. axis. System $\text{CO}(\text{NH}_2)_2$ - $\text{ClCH}_2\text{CO}_2\text{H}$ was examd. similarly at 45°, 60°, and 90°; viscosity isotherms rise rapidly with increased content of $\text{CO}(\text{NH}_2)_2$, and at low concns. of the latter they are slightly convex toward the compn. axis, whereas at high concns. they are convex toward the viscosity axis; the isotherms of η are convex toward the η axis. The system $\text{CO}(\text{NH}_2)_2$ - CHClCO_2H examd. at 65°, 70°, and 75° shows increased viscosity with increased content of $\text{CO}(\text{NH}_2)_2$ with the curves being similar to the previous system but showing much stronger interaction between the components. The system $\text{CO}(\text{NH}_2)_2$ - $\text{Cl}_2\text{CHCO}_2\text{H}$ examd. at 65°, 70°, and 75° showed a similar trend, but the η curves at 65° and 70° show a strong convexity away from the compn. axis. Evidently the introduction of Cl atoms into AcOH greatly increases the interaction with $\text{CO}(\text{NH}_2)_2$.

G. M. Kosolapo

Chem 1

pm mk

Chem

Physicochemical analysis of binary systems formed by acetamide with organic acids. IV. Surface tension of binary systems formed by acetamide with acetic acid and its chloro derivatives. Yu. I. Bekhovkina (Forest. Inst. Archangel). *Zhur. Obshch. Khim.* 26, 2805-8 (1950); *Chem. Abstr.* 44, 3222d, preceding abstr. Values of surface tension are tabulated for the binary systems of: $\text{AcOH}-\text{AcNH}_2$, $\text{AcNH}_2-\text{ClCH}_2\text{CO}_2\text{H}$ and $\text{AcNH}_2-\text{CCl}_3\text{CO}_2\text{H}$ at 20°, 30°, and 40°, 50°, 60°, and 70°, and 80°, 90°, and 100°, resp. The $\text{AcOH}-\text{AcNH}_2$ system has a 1:1 compd. revealed by the m.p. diagram. The $\text{AcNH}_2-\text{ClCH}_2\text{CO}_2\text{H}$ system also forms a 1:1 compd. with a max. at 8° and a eutectic at 5.6° and 55.1% AcNH_2 , and 1.7° and 45% AcNH_2 . The last system has 2 compds.: $\text{AcNH}_2\cdot\text{CCl}_3\text{CO}_2\text{H}$ (max. at 20°) and $\text{AcNH}_2\cdot 2\text{CCl}_3\text{CO}_2\text{H}$ (max. 29.3°); the 3 eutectics are at 14° and 84.12% AcNH_2 , 20.6° and 41.7% AcNH_2 , and 22.3° at 24.2% AcNH_2 . Surface-tension isotherms fail to reveal the existence of the above compds., although in the last 3 systems slight maxima for the 1:2 compds. can be deduced. G. M. Kosolapoff

RAM

Handwritten mark

2

Physicochemical analysis of the ternary system urea-acetic acid-chloroacetic acid. I. M. Bokhovkin and Yu. I. Bokhovkina (Wood Tech. Inst., Archangel). *Zh. Khim. Fiz.* 26, 3255-8 (1950); cf. *C.A.* 51, 4114f. The m.p. diagram of $\text{CO}(\text{NH}_2)_2\text{-AcOH-ClCH}_2\text{CO}_2\text{H}$ was studied, and the results are shown graphically. There are 6 areas of crystn.: the 3 pure components and 3 binary compounds: $\text{CO}(\text{NH}_2)_2\cdot 2\text{AcOH}$, $\text{CO}(\text{NH}_2)_2\cdot 2\text{ClCH}_2\text{CO}_2\text{H}$, and $\text{CO}(\text{NH}_2)_2\cdot \text{ClCH}_2\text{CO}_2\text{H}$. No ternary compounds were detected. Four ternary eutectics were located: 40 mole % $\text{CO}(\text{NH}_2)_2$, 56 mole % AcOH, and 25 mole % $\text{ClCH}_2\text{CO}_2\text{H}$; 33, 55, and 33; 14, 52, and 34; and 7, 52, and 30 mole %, resp.

O. M. Kozlovskii

BOKHOVKIN, I.M.; BOKHOVKINA, Yu.I.; VITMAN, Ye.O.

Thermal analysis of the ternary system carbamide - acetic acid -
trichloroacetic acid. Zhur.ob.khim. 32 no.8:2415-2418 Ag '62.
(MIRA 15:9)

1. Arkhangel'skiy lesotekhnicheskiy institut.
(Urea) (Acetic acid) (Thermal analysis)

BOKHOVKIN, I.M.; BOKHOVKINA, Yu.I.

Physicochemical analysis of the ternary system carbamide - phenol -
trichloroacetic acid. Zhur.ob.khim. 33 no.6:1722-1726 Je '63.
(MIRA 16:7)

1. Arkhangel'skiy lesotekhnicheskiy institut.
(Urea) (Phenol) (Acetic acid)

BOKHOVKIN, I.M.; BOKHOVKINA, Yu.I.; VITMAN, Ye.O.

Physicochemical analysis of the ternary system phenol - acetamide -
monochloroacetic acid. Zhur.ob.khim. 33 no.7:2087-2090 J1 '63.
(MIRA 16'8)

1. Arkhangel'skiy lesotekhnicheskiy institut.
(Phenols) (Acetamide) (Acetic acid)

BOKHOVKINA, Yu.I.; BOKHOVKIN, I.M.; VITMAN, Ye.O.

Physicochemical study of the ternary system carbamide -
monochloroacetic acid - trichloroacetic acid. Zhur. ob.
khim. 34 no. 3:723-727 Mr '64.

Physicochemical analysis of the ternary system phenol -
acetamide - trichloroacetic acid. Ibid.:727-731 (MIRA 17:6)

1. Arkhangel'skiy lesotekhnicheskiy institut.

BOKHOVKIN, I.M.; BOKHOVKINA, Yu.I.; VITMAN, Ye.O.

Physicochemical investigation of the ternary system
carbamide - acetamide - acid. Zhur. ob. khim. 3/ no. 5:
1363-1365 My '64.

Physicochemical investigation of the ternary system phenol-
monochloroacetic acid - trichloroacetic acid. Ibid.:1369-1371

Physicochemical investigation of the ternary system phenol-
acetic acid - monochloroacetic acid. Ibid.:1372-1375
(MIRA 17:7)

1. Arkhangel'skiy lesotekhnicheskii institut.

BOKHOVKIN, I.M.; BOKHOVKINA, Yu.I.; UYEMLYANINA, L.S.

Physicochemical investigation of the ternary system carbamide-acetamide - monochloroacetic acid. Zhur. ob. khim. 34 no. 5: 1366-1369 My '64. (MIRA 17:7)

1. Arkhangel'skiy lesotekhnicheskii institut.

BOKHOVKIN, I.M.; BOKHOVKINA, Yu.I.; VITMAN, Ye.O.

Physicochemical study of the ternary system phenol - acetic acid - trichloroacetic acid. Zhur. ob. khim. 34, no.9:2823-2826 S '64.

Physicochemical study of the ternary system carbamide - acetamide - trichloroacetic acid. Ibid.:2826-2829

(MIRA 17:11)

1. Arkhangel'skiy lesotekhnicheskii institut.

18(7)

AUTHORS:

Bokhshteyn, S. Z., Gudkova, T. I., Zhukhovitskiy, A. A.,
Rishkin, S. T.

SOV/20-121-6-17/45

TITLE:

On the Influence of Irreducible Structure Modifications Which Occur During a Plastic Deformation on the Diffusion Mobility (O vliyaniy neobratimnykh strukturnykh izmeneniy, vznikayushchikh pri plasticheskoy deformatsii, na diffuzionnyuyu podvizhnost')

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 6, pp 1015-1018 (USSR)

ABSTRACT:

This paper investigates the influence of a previous plastic deformation at a high temperature on the diffusion of zink in nickel. This investigation is carried out separately for the volume and for the boundaries of the grains. The previous deformation of the plain samples were carried out by means of expanding tensions $\sigma = 6 \text{ kg/mm}^2$ at a temperature of 700° in the course of 5; 25; 50; and 60 hours. The diffusion currents were determined by autoradiography of an oblique section. The experimental results are given in a table and in a diagram. According to these results, a previous deformation increases considerably the velocity of the diffusion of tin in nickel

Card 1/3

SOV/20-121-6-17/45

On the Influence of Irreducible Structure Modifications Which Occur During
a Plastic Deformation on the Diffusion Mobility

(on the boundary and also in the volume). The volume modification is modified much more than the diffusion on the boundaries. For small deformations, the effect upon the boundaries and upon the grain has the same intensity. According to the analysis of the autoradiograms, the diffusion mainly takes place along the grain boundaries. The influence of the grain boundaries on the diffusion velocity decreases if the previous plastic deformation becomes more intensive. The above-given results may be explained by the following assumption: The plastic deformation at high temperatures causes essential modifications of the microstructure of the alloy. These modifications are irreversible or the initial state may be restored only by a heating of the samples to sufficiently high temperatures. According to an X-ray investigation, the above-discussed previous deformation at high temperatures noticeably diminishes the size of the blocks left after diffusion tempering. The results found for the diffusion of tin in nickel at 800° in the course of 100 hours are given in a table. The irreducible modifications of the structure exercise considerable influence on the diffusion mobility during

Card 2/3

SOV/26-121-6-17/45

On the Influence of Irreducible Structure Modifications Which Occur During
a Plastic Deformation on the Diffusion Mobility

the plastic deformation. A previous plastic deformation intensifies diffusion considerably. There are 3 figures, 2 tables, and 10 references, 6 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov
(All-Union Scientific Research Institute of Aircraft Materials)

PRESENTED: April 19, 1958, by G. V. Kurdyumov, Academician

SUBMITTED: April 1, 1958

Card 3/3

BOKHUA, A.V.

Some data on the epidemiology of chancroid in Abkhazia. Vest.ven.
i derm. 30 no, 4:59-60 JI-Ag '56. (MLRA 9:10)

1. Iz kozhno-venerologicheskoy bol'nitsy Ministerstva zdravookhrane-
niya Abkhazskoy SSR.
(ABKHAZIA--CHANCROID)

BOKHUA, A.V.

Data on the spread of syphilis in Abkhazia before the establishment of Soviet power. Sbor. trud. Med. nauch. ob-vo Abkh. 2:219-223 '59. (MIRA 14:10)

1. Iz respublikanskogo kozhno-venerologicheskogo dispansera (glavnyy vrach V.M.Matsaberidze). (ABKHAZIA-SYPHILIS)

BOKHYAN, S.K., inzh.

Self-exciting induction generator with increased frequency and
voltage stabilization. Elektrotehnika 36 no.2:56-58 F '65.
(MIRA 18:4)

VOITSEK, V. [Vojtek, W.]; POLITANSKA, U. [Politanska, U.];
PORAWSKI, P. [Porawski, E.]; POCHYNKA, A. [Pochynka, A.]

Ferromagnetic phases in the products of nickel ferricyanide
thermal decomposition. Zhur.georg.khizn. 10 no.12:2693-2697
D '65. (1965)

1. Universitet imeni L.Mitskevicha, laboratoriya magnitokhimii,
Poznan', Pol'sha.

BOKIN, M.N., kand. tekhn. nauk.

~~Effect of surface smoothness on the selection of substitutes for~~
Effect of surface smoothness on the selection of substitutes for
high-tin babbitt metals. Trudy LVMI no.6:380-188 '57. (MIRA 11:5)
(Bearing metals)

SOV/137-59-1-1508

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 200 (USSR)

AUTHOR: Bokin, M. N.

TITLE: The Effect of Surface Finish on the Endurance Limit of Steel 2Kh13
(Vliyaniye chistoty poverkhnosti na predel vynosi vosti stali 2Kh13)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Mashinostroeniye, 1958, Nr 1,
pp 136-139

ABSTRACT: Investigations were carried out in order to determine how the fatigue strength of a specimen (S) of steel 2Kh13 subjected to alternating rotary bending while rotating in a Schenk-type fatigue-testing machine is affected by the surface finish produced by various methods of machining. The tests were performed on untempered Ss as well as on S's which had been quenched from a temperature of 1000°C and tempered at 300°C; the working surfaces of the S's were subjected to final machining operations consisting of turning (maximum irregularities amounting to 5.8μ in height), grinding (1.7μ), polishing (0.8 μ), and superfinishing (0.2 μ). The endurance limit σ_1 represents an arithmetical mean of three values which were obtained by the following methods. The thermometric (based on the

Card 1/2

SOV/137-59-1-1508

The Effect of Surface Finish on the Endurance Limit of Steel 2Kh13

change in temperature), the deformation method (based on the deflection), and the method of the quantity of work absorbed (based on the torque). It is confirmed that machining of metal must be regarded as a process in which not only the shape and the dimensions of a part are changed but its physical properties as well. Machining of a part increases the magnitude of the σ_{-1} (value of σ_{-1} increases as the class of finish is increased). Improving the surface finish of important parts made of steel 2Kh13 permitted increasing their loading by 15-20%.

S. G.

Card 2/2

BOKIN, M.N., kand. tekhn. nauk

Photoelectric method for checking kinematic errors in spur
gears. Izv. vys. ucheb. zav.; prib. no. 3:79-83 '58.
(MIRA 12:2)

1. Leningradskiy voyenno-mekhanicheskiy institut.
(Photoelectric measurements) (Gearing, Spur)

BOKIN, M.N., dotsent, kand.tekhn.nauk; YASHNOV, B.D., prof., doktor
tekhn.nauk, retsenzent; AL'TFEL'D, G.I., dotsent, retsenzent;
YELKIN, V.I., dotsent, retsenzent; OZNOBISHIN, N.V., dotsent,
retsenzent; DVORAKOVSKAYA, A.A., tekhn.rab.

[Fundamentals of interchangeability in the manufacture of
machinery; textbook] Osnovy vzaimozameniaemosti v mashino-
stroenii; uchebnoe posobie. Leningrad, Leningr.voenno-
mekhanicheskii in-t, 1959. 317 p.

(MIRA 14:4)

(Interchangeable mechanisms)

BOKIN, M.N., dotsent, kand.tekhn.nauk

Experimental determination of operating conditions in super-finishing the 2Kh13 steel. Izv.vys.ucheb.zav.; mashinostr. no.2:139-145 '59. (MIRA 13:3)

1. Leningradskiy voyenno-mekhanicheskiy institut.
(Grinding and polishing)

BOKIN, M.N.

Using measuring worms in over-all inspection of spur gears with
single-profile toothing. Izv.tekh. no.3:1-2 Mr '60. (MIRA 13:6)
(Gearing, Spur--Testing)
(Measuring worm)

BOKIN, M.N.; YERSHOV, Ye.M.

New brands of epoxy adhesive for sealing glass textolite to metals.
Biul.tekh.-ekon.inform.Gos.nauch.-issl.irst.nauch.i tekhn.inform.
no.9:27-28 '63. (MIRA 16:10)

BOKIN, Mikhail Nikolayevich; BORSHCHEVSKAYA, S.I., red.

[Interchangeability, control, and technical measurements in the manufacture of machinery] Vzaïmozame-
niaemost', kontrol' i tekhnicheskie izmereniia v ma-
shinostroenii. Leningrad, Lenizdat, 1964. 255 p.
(MIRA 18:7)

BOKIN, M.N.; TSYPLAKOV, O.G.

Theory of the impregnation of glass reinforcing fillers with
polymer binders. Plast. massy no.2:30-32 '66.

(MIRA 19:2)

POKIN, G. P.

37331. Opredeleeniye plotnosti krepleniya ochistnogo proctranstva zapiski liningr:
Gornogo in-ta, T. xxiii, 1949, s. 3-24. Bibliogr: 7 Nazv

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

Changes in the dispersion of optical glass in relation to its thermal treatment. P. Ya. Rokin. *Optiko-Mekhan. Prom.* 7, No. 12, 4-8 (1937); *Chem. Zentr.* 1938, II, 3000.—The measurement of 34 specimens of 7 types of glasses showed that in the range of the visible spectrum (about 4000-7000 Å.) a change of the coeff. of refraction about $276 \cdot 10^{-6}$ on account of the thermal hardening corresponds to such a change of the dispersion of $0.8 \cdot 10^{-6}$.

M. V. Comdoide

Bokin, P. Ya.

B. T. R.
Vol. 3 No. 4
Apr. 1954
Mechanical Engineering

5155* Modern Requirements For Grinding and Polishing
Machines. (Russian.) P. Ia. Bokin. *Steklo i Keramika*, v. 10,
no. 9, Sept. 1953, p. 4-8.
Describes shortcomings. Suggests improvements on machines
produced by national industry. 5 ref.

(1) Lind Eng

3

6-4-57
EJP

925. Production control of processes of grinding and polishing glass.—P. A. BUBIN (Glass & Ceramics, Moscow, 10, No. 4, 1953). The treatment of a piece of glass is divided into 3 stages: abrasion, grinding, and polishing; the process can be controlled in two ways: (1) by weighing the amount of glass removed in grinding and polishing the surface layer which is removed. A graph shows the ratio between the thickness of the surface layer and the diameter of the corundum grains. The depth of the surface layer of ground glass varies to such an extent that it can serve as a basis to control grinding. Methods of determining the thickness of the surface layer are explained.

BOKIN, P. Ya.

"Physicomechanical Properties of New Polishing Materials." Cand Tech Sci,
Inst of Chemistry of Silicates, Acad Sci USSR, Leningrad, 1954. (RZhKhim,
No 8, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions (16)

Bokin, P. Ya.
BARDIN, Anatoliy Nikolayevich; GLEZAROVA, I.L., redaktor; SARKIN, I.G.,
zasluzhennyy deyatel' nauki, professor, redaktor; MEDVEDEV, N.M.,
kandidat khimicheskikh nauk, redaktor; IVANOV, L.V., inzhener,
redaktor; CHURILOVSKIY, V.N., doktor tekhnicheskikh nauk, pro-
fessor; KAPUSTINA, T.P., kandidat tekhnicheskikh nauk, dotsent;
ROMANOVA, L.V., Kandidat tekhnicheskikh nauk, dotsent; BOKIN, P.Ya.,
inzhener; POLLYAK, V.V., kandidat tekhnicheskikh nauk, redaktor;
PANOVA, L.Ya., tekhnicheskiiy redaktor.

[Technology of optical glass] Tekhnologiya opticheskogo stekla.
Moskva, Gos. izd-vo lit-ry po stroitel'nyy materialam, 1955. 494 p.
(Glass, Optical) (MLRA 9:1)

BOKIN, P. YA.

USSR/ Chemistry - Glass

Card 1/1 Pub. 104 - 2/12

Authors : Bokin, P. Ya.

Title : The structure of a surface layer of etched glass

Periodical : Stek. 1 ker. 1, 5 - 8, Jan 1955

Abstract : An investigation was conducted by the Institute for the Chemistry of Silicates, to determine the influence of various abrasives on the structure of an etched glass surface. Specimens of the vertical-drawn glass and the optical K-8 glass were used for the above purpose. The results obtained are described in detail. Table; graph; illustrations.

Institution:

Submitted:

BOKIN. P.Ya.

Calculating the technological process of grinding and polishing plate
glass. Stek. 1 ker. 13 no.8:6-9 Ag '56. (MLRA 9:10)

1. Institut khimii silikatov Akademii nauk SSSR.
(Plate glass) (Grinding and polishing)

Bokin, P. Ya.

USSR/Engineering - Conferences

Card 1/1 Pub. 124 - 29/39

Authors : Bokin, P. Ya., Cand. of Tech. Sc.

Title : Problems of glass grinding and polishing

Periodical : Vest. AN SSSR 26/2, 126-127, Feb 1956

Abstract : Report is submitted on the conference held at the Institute of Chemistry of Silicates of the Acad. of Sc., USSR (Dec. 14-17, 1955) where the subject of glass grinding and polishing was debated.

Institution :

Submitted :

BOKIN, P.Ya.

Conference on the grinding and polishing of glass. Stek.l ker.
14 no.6:31-32 Je '57. (MLRA 10:7)
(Glass manufacture) (Grinding and polishing)

BOKIN, P. Ya.

AUTHOR: BOKIN, P. JA., cand. techn. sc. PA - 2634
TITLE: The Development of the Theory of Methods for the Grinding and Polishing of Glass. (Razvitye tyeorii protsessov shlifovki i polirovki steykla, Russian)
PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 3, pp 129-130 (U.S.S.R.)
Received: 6 / 1957 Reviewed: 7 / 1957
ABSTRACT: The present paper contains a report on a Conference held in December 1956, which was the fourth coordinating conference in this field.
The production of plate glass in Russia and in other countries, as well as laboratory work carried out by leading institutes and works laboratories in 1956 was discussed. New data connected with the grinding- and polishing theory, the testing of new grinding- and polishing materials, and the latest constructions of grinding- and polishing machines were given. It was announced that Soviet scientists are adhering to the physical-chemical theory on the polishing of glass developed by I.V. GREBYENISHCHIKOV and reject the theory of fluidity developed by BILBY (Western method). Moreover, a number of special problems as well as the plan of operation for 1957 are discussed in short. Among other measures

Card 1/2

PA - 2634

The Development of the Theory of Methods for the Grinding and Polishing of Glass.

to be taken, it is also planned to test a number of new types of machines on a test stand which is to be erected especially for this purpose in a plant belonging to the Ministry of Industry. It was suggested that the laboratories of backward plants and factories be improved and extended.

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

KACHALOV, N.N.; BOKIN, P.Ya.; KORELOVA, A.I.

Glass grinding and polishing with an apparatus of great pressure
and speed. Trudy LTI no.49:18-24 '58. (MIRA 15:5)

(Glass)

(Grinding and polishing)

KACHALOV, N.N.; BOKIN, P.Ya.; DEMICHEV, S.A.; ROMANOV, B.Ye.

Grinding glass with garnet powder. Trudy ITI no.49:25-29

'58.

(MIRA 15:5)

(Glass) (Grinding and polishing) (Garnet)

KACHALOV, N.N.; BOKIN, P.Ya.

New polishing materials. Trudy LTI no.49:30-36 '58. (MIRA 15:5)
(Glass)
(Grinding and polishing)

BOXIN, P.Ya.

Relation of thickness of the relief effect and the removed layers
in polished glass to abrasive grain sizes. Stok. i ker. 15 no.4;
8-10 Ap '58. (MIRA 11:5)

1. Institut khimii silikator AN SSSR.
(Grinding and polishing) (Glass manufacture)

BOKIN P.YA.

Z/012/60/000/02/019/019
E073/E435

AUTHOR: None given

TITLE: Second Conference on Grinding and Polishing of Glass *III*

PERIODICAL: Silikáty, 1960, Nr 2, p 213

ABSTRACT: This conference was held in Jablonec n. Nisou on September 22-25, 1959. Among the 150 participants were Dr A.F.Fedoseyev, Professor, Vice-President of the Institute for Silicate Chemistry of the Soviet Academy of Sciences, P.Ya.Bokin, Candidate of Technical Sciences (USSR) and Dr A. Kaller (Jena, East Germany). 19 Papers were read: P.Ya.Bokin (USSR) read a paper on the development of the theory of glass grinding in the USSR; A.Kaller read a paper on the relation between some physical properties of iron oxides and their polishing effects; J.Korelova read a paper on the development of the theory of glass polishing; A.S.Totes (USSR) read a paper on intensifying the process of glass polishing; S.Minar (Prerov) read a paper on the importance of physical and chemical factors during polishing of silicate glass which was the most valuable Czech contribution on theoretical research; J.Voldan read a paper on the effect

Card 1/2

Z/012/60/000/02/019/019
E073/E435

Second Conference on Grinding and Polishing of Glass

of recrystallization on the resistance to grinding of molten rocks and basic glasses. Short contributions included the following: J. Lederer dealt with expressing of polished surfaces. F. Záček dealt with granulometric analysis and making such analysis more accurate. J. Götz dealt with the effectiveness in polishing of iron oxides as a function of the annealing temperature. I. Solc dealt with the stability of polished surfaces. The following five Czechoslovak research establishments participated in the conference:

1) Research Institute of Household Glass and Costume Jewellery, Jablonec n. Nisou; 2) Research Institute for Optics and Precision Mechanics, Prerov; 3) Research establishment for flat glass, Teplice; 4) Glass Research Institute, Hrádec Králové; 5) Minerals Research Institute, Turnov. ✓

Card 2/2

BOKIN, P.Ya.

Conference on glass grinding and polishing. Stek.1 ker.
17 no.4:46-47 Ap '60. (MIRA 13:8)
(Glass manufacture--Congresses)

BOKIN, P.Ya.

Fracture of the surface layer of glass by means of microindentors.
Inzh.-fiz. zhur. 4 no.4:126-128 Ap '61. (MIRA 14:5)

1. Institut khimii silikatov AN SSSR, g. Leningrad.
(Glass--Testing)

BOKIN, P.Ya.

Strength of grains of abrasive powders. Stel. 1 ker. 18 no.7:
9-12 J1 '61. (MIRA 14:7)
(Glass manufacture) (Abrasives)

S/072/62/000/009/002/002
B117/B136

AUTHOR: Bokin, P. Ya.

TITLE: Symposium on "Mechanical Properties and Structure of Inorganic Glasses"

PERIODICAL: Steklo i keramika, no. 9, 1962, 45 - 46

TEXT: The symposium, held in Leningrad in April, 1962, was organized by Leningradskoye pravleniye Vsesoyuznogo khimicheskogo obshchestva im. D. I. Mendeleyeva (Leningrad Board of Administration of the All-Union Chemical Society imeni D. I. Mendeleev), Institut khimii silikatov im. I. V. Grebenshchikova AN SSSR (Institute of Silicate Chemistry imeni I. V. Grebenshchikov AS USSR), Gosudarstvennyy opticheskiy institut im. S. I. Vavilova (State Optical Institute imeni S. I. Vavilov), and Gosudarstvennyy nauchno-issledovatel'skiy institut stekla (State Scientific Research Institute of Glass). It was attended by 200 delegates from scientific research institutes and industrial establishments. Following are the most interesting of the 20 reports: G. M. Bartenev, A. S. Yermeyeva, and V. A. Kargin reported on variations in the mechanical properties of glass in the field of polymorphous conversions including a third (mechanical-
Card 1/4

Symposium on "Mechanical ...

S/072/62/000/009/002/002
B117/B136

chemical) type of depolymerization discovered by the authors. V. V. Tarasov, V. A. Ratobyl'skaya reported results of experimental studies on sodium borate glasses, emphasizing the polymer structure of these glasses. A. V. Gladkov, Ye. A. Karabutova, and Ye. A. Yunitskiy reported on investigations of lead silicate and lead borate glasses which support the theory that these glasses are of polymer structure. G. M. Bartenev and A. S. Yeremeyeva spoke about the residual stresses in inorganic single-phase glasses, glass formers, and hyperelastic stresses in microheterogeneous glasses. O. K. Botvinkin and N. I. Ananich reported on three types of stress in glass which result from its rapid quenching, the development of anisotropic structures in its elements, the composition and form of its microphases; obviously these stresses affect its mechanical properties. K. T. Bondarev and V. A. Minakov spoke of relations between variations in strength and heat treatment of lithium aluminosilicate glasses containing small amounts of silver and of sodium-calcium aluminate glasses, with fluorine used as a catalyst. V. G. Chistoserdov's and I. A. Soboleva's report dealt with the bending strength of photosensitive lithium and cordierite type crystalline glasses at different temperatures. A. I. Avgustinik and L. S. Klanina reported on the relationship between the microhardness of lithium calcium silicate glasses and the development of

Card 2/4

Symposium on "Mechanical ...

S/072/62/000/009/002/002
B117/B186

"pre-seeding" groups and crystals determined in these by IR-spectroscopy. A. I. Korelova, O. S. Alekseyeva, and M. G. Degen spoke about the influence of the lithium oxide content and heat treatment on the microhardness and brittleness of lithium silicate glasses. F. K. Aleynikov, V. A. Slizbis, R. P. Paulavichyus, and P. V. Durdzis reported on an investigation of the microhardness, microtensile strength, constants of elasticity, and structure of binary and ternary glasses containing various monovalent and bivalent metals, as well as on some commercial glasses. K. T. Bondarev, and S. Ye. Dvorkina spoke about the effect of the temperature of heat treatment on the mechanical strength of sodium borosilicate glasses. S. M. Brekhovskikh, G. K. Demishev, and L. N. Butovich stated that the constants of elasticity, the dielectric constant, and the loss angle tangent of perpendicularly drawn window glass all increase with increasing gamma dose. Ye. S. Sorkin described the method of investigating the crystallization in aluminosilicate glasses containing titanium oxide by measuring the deformation under isothermal static compression. F. F. Vitman, I. A. Boguslavskiy, and V. P. Pukh stated that they had succeeded in increasing the strength of flat glass by nearly 10 times (up to 100 kg per mm²) by thermal hardening in a liquid and subsequent etching in hydrofluoric acid. F. F. Vitman and V. P. Pukh reported on tensile and bending tests of

Card 3/4

Symposium on "Mechanical ...

S/072/62/000/009/002/002
B117/B186

glass threads depending on the composition of the glass. G. M. Bartenev and L. I. Motorina found that the strength of glass fibers subjected to tensile stress can be improved by heat treatment. The delegates recommended to intensify research work on the relationship between the mechanical properties and the structure of inorganic glasses.

Card 4/4

KORELOVA, A. I. and BOKIN, P. Ya.

"Mechanical properties and microstructure of crystallized glasses."

(Institute of Silicate Chemistry)

At the Division of Physical Chemistry and Technology of Inorganic Materials, Acad. Sci. USSR, a scientific council on the problem of silicates has been established. The Council is a coordinating body for basic scientific research on silicates, glass, fiber glass, stoneware, refractory and superrefractory materials, and coatings. The purpose of the Council is primarily to contribute to the improvement of the strength and impact resistance of existing materials. In 1963, the council held two sessions.

(Steklo i keramika, no. 6, 1964, 48-49)

ALEKSEYEVA, O. S.; BOKIN, P. Ya.; GOVOROVA, R. A.; KORELOVA, A. I.; NIKANDROVA, G. A. 4

"Structural variations in lithium silicate and lithium aluminosilicate glasses in the process of crystallization and their effect on mechanical properties."

report submitted for 4th All-Union Conf on Structure of Glass, Leningrad, 16-21 Mar 64.

L:00478-66 EWP(e)/EWT(m)/EWP(i)/EWP(b) GS/WH
ACCESSION NR: AT5013393

UR/0000/65/000/000/0143/0149

AUTHOR: Bokin, P. Ya.; Govorova, R. A.

TITLE: Resistance to surface grinding and mechanical properties of certain glasses and glass-crystalline materials

SOURCE: AN SSSR. Institut khimii silikatov. Strukturnyye prevrashcheniya v steklakh pri povyshennykh temperaturakh (Structural transformations in glass at high temperatures). Moscow, Izd-vo Nauka, 1965, 143-149

TOPIC TAGS: glass surface strength, glass property, glass grinding, optical glass

ABSTRACT: The method of mutual grinding was used to study the strength characteristics of K8, BK6, F2, and TF4 optical glasses and of glass-crystalline materials prepared from these glasses. Quartz glass ($H=710 \text{ kg/mm}^2$) and a powder of silicon carbide ($H=2900 \text{ kg/mm}^2$) were taken as the standards. The influence of the relative size of the glasses being ground on the value of the surface strength P_0 obtained was determined. It was found that in order to determine P_0 of the optical glasses within 8-10%, the surface areas of the samples used in the mutual grinding should differ from each other by a factor of no more

Card 1/2

L 00478-66

ACCESSION NR: AT5013393

2

than 2.0 -2.5 if the strength of the ground sample is 3 to 5 times less than that of the standard glass. Grinding of glasses with a strength of 0.18 and glass-crystalline materials with a strength of 4.6 showed that the general principle of the mutual grinding method was closely obeyed for all the samples, and hence, that the method is fully applicable to the determination of the surface strength of both glasses and glass-crystalline materials. In addition, this method permits the detection of internal changes in the structure of lithium silicate glasses caused by a variable content of lithium oxide. The relationship between the surface strength of glasses and glass crystalline materials and their micro-hardness and Young's modulus was elucidated. "Measurements of the hardness of glasses and glass-crystalline materials were carried out by G. A. Nikandrova." Orig. art. has: 3 figures and 4 tables. 44

ASSOCIATION: none

SUBMITTED: 21Dec64

ENCL: 00

SUB CODE: MT

NO REF SOV: 004

OTHER: 000

Card

mlr
2/2

L 00477-66 EWP(e)/EWT(m)/EWP(1)/EWP(b) GS/WH

ACCESSION NR: AT5013394

UR/0000/65/000/000/0149/0157

AUTHOR: Bokin, P. Ya.; Korelova, A. I.; Govorova, R. A.; Alekseyeva, O. S.;
Nikandrova, G. A.

TITLE: Mechanical properties and microstructure of lithium silicate glasses at various stages of crystallization

SOURCE: AN SSSR. Institut khimii silikatov. Strukturnyye prevrashcheniya v steklakh pri povyshennykh temperaturakh (Structural transformations in glass at high temperatures). Moscow, Izd-vo Nauka, 1965, 149-157

TOPIC TAGS: glass mechanical property, glass crystallization, lithium silicate glass, glass structure

ABSTRACT: Certain mechanical properties and their dependence on the microstructure of initial and crystallized lithium silicate glasses containing 23.4 and 34.4 mole % lithium oxide were investigated. The glasses were subjected to various thermal treatments, and their microstructure was studied. The change in the size and quantity of spherulites and in the density, microhardness, elastic constants, and surface strength of the glasses was studied as a function of the conditions of thermal treatment. This combined study of the microstructure and mechanical properties of lithium silicate glasses reveals that changes in

Card 1/2

L 00477-66

ACCESSION NR: AT5013394

such properties taking place during the crystallization of glasses under various conditions are closely related to changes in their microstructure, which in turn depends on the composition and properties of the separating crystals. Orig. art. has: 7 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 21Dec64

ENCL: 00

SUB CODE: MT

NO REF SOV: 006

OTHER: 000

Card 2/2

L 00476-66 EWP(a)/EWT(m)/EWP(1) CS/MH

ACCESSION NR: AT5013395

UR/0000/65/000/000/0158/0176

AUTHOR: Bokin, P. Ya.⁴⁴; Korelova, A. I.⁴⁴; Govorova, R. A.⁴⁴; Alekseyeva, O. S.⁴⁴
Nikandrova, G. A.⁴⁴ 22
B-1

TITLE: Relationship between certain mechanical properties and the micro-
 structure of crystallized lithium aluminosilicate glasses 1544

SOURCE: AN SSSR. Institut khimii silikatov. ⁴⁴Strukturnyye prevrashcheniya v
 steklakh pri povyshennykh temperaturakh (Structural transformations in glass at
 high temperatures). Moscow, Izd-vo Nauka, 1965, 158-176

TOPIC TAGS: glass crystallization, glass mechanical property, lithium
 metasilicate, lithium aluminosilicate

ABSTRACT: A series of mechanical properties (density, hardness, elastic con-
 stants, and surface strength) were studied as a function of the microstructure
 of lithium aluminosilicate glass subjected to crystallization⁴⁴ under various
 conditions of thermal treatment. The microstructure was investigated by optical
 and electron microscopy; x-ray phase analysis was also employed. In samples
 subjected to thermal treatment at 530-700C, the increase in density is due to
 the crystallization of lithium metasilicate, which is also responsible for the
 Card 1/2

L 00476-66

ACCESSION NR: AT5013395

increase in microhardness, Young's modulus, and surface strength. A still greater increase in density at 740C and above, associated with a decline in mechanical properties, is caused by the formation of a β -eucryptite solid solution, which is much more brittle than glass. It is concluded that the methods selected for studying the mechanical properties are sufficiently sensitive and adequately reflect changes in the process of crystallization and in the nature of the crystallizing phases caused by different conditions of thermal treatment. The results showed that the appearance of any crystalline phase in the glass is associated with the formation of a microstructure characteristic of this phase, and this in turn is manifested by changes in the curves representing the mechanical properties versus the temperature of the thermal treatment. Orig. art. has: 13 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 21Dec64

ENCL: 00

SUB CODE: MT

NO REF SOV1. 013

OTHER: 011

Card

2/2